

What is claimed is:

1. A method comprising:

forming layers of digital video enhancement data to achieve bandwidth requirements for the respective layers.

2. The method of claim 1 wherein forming a layer of video enhancement data further comprises:

selecting a threshold value based upon the bandwidth requirements; and

generating a layer of video enhancement data based upon the threshold value.

3. The method of claim 2 further comprising:

transmitting the layer of video enhancement data over a digital communication channel; and

transmitting the threshold value over the digital communication channel.

4. An article comprising a computer-readable medium which stores computer-executable instructions for video data processing, the instructions causing a machine to:

form layers of digital video enhancement data to achieve bandwidth requirements for the respective layers.

5. The article of claim 4 wherein forming a layer of video enhancement data further comprises:

selecting a threshold value based upon the bandwidth requirements; and

generating a layer of video enhancement data based upon the threshold value.

6. The article of claim 5, the instructions further causing the machine to:

transmit the layer of video enhancement data over a digital communication channel; and

transmit the threshold value over the digital communication channel.

7. A method comprising:

processing layers of digital video enhancement data to enhance a base video signal, the layers having bandwidth requirements.

8. The method of claim 7 wherein the layers have approximately equal bandwidth requirements.

9. The method of claim 7 wherein the base video signal comprises a picture, and wherein each processed layer enhances the entire picture.

1 10. An article comprising a computer-readable medium which  
2 stores computer-executable instructions for video data  
3 processing, the instructions causing a machine to:

4 process layers of digital video enhancement data to  
5 enhance a base video signal, the layers having bandwidth  
6 requirements.

1 11. The article of claim 10 wherein the layers have  
2 approximately equal bandwidth requirements.

1 12. The article of claim 10 wherein the base video signal  
2 comprises a picture, and wherein each processed layer enhances  
3 the entire picture.

1 13. A method comprising:

2 receiving a layer of digital video enhancement data that  
3 achieves a bandwidth requirement, and

4 transmitting the layer over a digital communication  
5 channel.

1 14. The method of claim 13, wherein the layer of digital  
2 video enhancement data is a first layer of digital video  
3 enhancement data that achieves a first bandwidth requirement,  
4 the method further comprising:

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CA-1  
5 receiving a second layer of digital video enhancement  
6 data that achieves a second bandwidth requirement, wherein the  
7 first bandwidth requirement is not equal to the second  
8 bandwidth requirement, and

9 transmitting the second layer over the digital  
10 communication channel.

1 15. The method of claim 13 further comprising:

2 receiving a threshold value corresponding to the layer,  
3 wherein the layer comprises a '1' bit for each magnitude  
4 greater than or equal to the threshold value; and

5 transmitting the threshold value over the digital  
6 communication channel.

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1 16. An article comprising a computer-readable medium which  
2 stores computer-executable instructions for video data  
3 processing, the instructions causing a machine to:

4 receive a layer of digital video enhancement data that  
5 achieves a bandwidth requirement, and

6 transmit the layer over a digital communication channel.

1 17. The article of claim 16, wherein the layer of digital  
2 video enhancement data is a first layer of digital video  
3 enhancement data that achieves a first bandwidth requirement,  
4 the instructions further causing a machine to:

5 receive a second layer of digital video enhancement data  
6 that achieves a second bandwidth requirement, wherein the  
7 first bandwidth requirement is not equal to the second  
8 bandwidth requirement, and

9 transmit the second layer over the digital communication  
10 channel.

1 18. The article of claim 16, the instructions further causing  
2 a machine to:

3 receive a threshold value corresponding to the layer,  
4 wherein the layer comprises a '1' bit for each magnitude  
5 greater than or equal to the threshold value; and

6 transmit the threshold value over the digital  
7 communication channel.

1 19. A method comprising:

2 generating from a source video sequence a digital base  
3 video signal;

4 generating from the source video sequence a body of  
5 digital video enhancement data; and

6 generating from the body of digital video enhancement  
7 data a layer of digital video enhancement data, the layer  
8 achieving a bandwidth requirement.

20. The method of claim 19, wherein the body of digital video enhancement data includes a plurality of magnitudes, and wherein generating a layer of digital video enhancement data comprises:

selecting a threshold value; and

forming a layer of digital video enhancement data comprising a '1' bit for each magnitude greater than or equal to the threshold value.

21. An article comprising a computer-readable medium which stores computer-executable instructions for video data processing, the instructions causing a machine to:

generate from a source video sequence a digital base video signal;

generate from the source video sequence a body of digital video enhancement data; and

generate from the body of digital video enhancement data a layer of digital video enhancement data, the layer achieving a bandwidth requirement.

22. The article method of claim 21, wherein the body of digital video enhancement data includes a plurality of magnitudes, and wherein generating a layer of digital video enhancement data comprises:

selecting a threshold value; and

6 forming a layer of digital video enhancement data  
7 comprising a '1' bit for each magnitude greater than or equal  
8 to the threshold value.

1 23. A method comprising:

2 receiving a digital base video signal comprising a set of  
3 values;

4 receiving a layer of digital video enhancement data  
5 comprising a set of bits, each bit corresponding to a value of  
6 the digital base video signal;

7 receiving a threshold value;

8 for each '1' bit in the layer of digital video  
9 enhancement data, combining the threshold value with the  
10 corresponding value of the digital base video signal.

1 24. The method of claim 23 further comprising:

2 receiving a sign bit corresponding to a bit in the layer  
3 of digital video enhancement data,

4 wherein combining the threshold value with the  
5 corresponding value of the digital base video signal comprises  
6 combining by adding when the sign bit indicates positive and  
7 combining by subtracting when the sign bit indicates negative.

1 25. An article comprising a computer-readable medium which  
2 stores computer-executable instructions for video data  
3 processing, the instructions causing a machine to:

4 receive a digital base video signal comprising a set of  
5 values;

6 receive a layer of digital video enhancement data  
7 comprising a set of bits, each bit corresponding to a value of  
8 the digital base video signal;

9 receive a threshold value;

10 for each '1' bit in the layer of digital video  
11 enhancement data, combine the threshold value with the  
12 corresponding value of the digital base video signal.

1 26. The article of claim 25, the instructions further causing  
2 the machine to:

3 receive a sign bit corresponding to a bit in the layer of  
4 digital video enhancement data,

5 wherein combining the threshold value with the  
6 corresponding value of the digital base video signal comprises  
7 combining by adding when the sign bit indicates positive and  
8 combining by subtracting when the sign bit indicates negative.

1 27. A system comprising  
2 an encoder configured to:

generate from a source video sequence a digital base video signal;

generate from the source video sequence a body of digital video enhancement data; and

generate from the body of digital video enhancement data a layer of digital video enhancement data, the layer achieving a bandwidth requirement.

28. The system of claim 27, wherein the encoder is further configured to:

select a threshold value based upon the bandwidth requirement; and

generate a layer of digital video enhancement data based upon the threshold value.

29. A system comprising

a decoder configured to:

receive a digital base video signal comprising a set of values;

receive a layer of digital video enhancement data comprising a set of bits, each bit corresponding to a value of the digital base video signal;

receive a threshold value;

9 for each '1' bit in the layer of digital video  
10 enhancement data, combine the threshold value with the  
11 corresponding value of the digital base video signal.

1 30. The system of claim 29 wherein the combination generates  
2 an enhanced viewable video signal.

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